



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/675,380

09/30/2003

Jeyhan Karaoguz

14763US02

6855

23446

7590

10/04/2010

MCANDREWS HELD & MALLOY, LTD

500 WEST MADISON STREET

SUITE 3400

CHICAGO, IL 60661

EXAMINER

AHMED, SALMAN

ART UNIT

PAPER NUMBER

2476

MAIL DATE

DELIVERY MODE

10/04/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

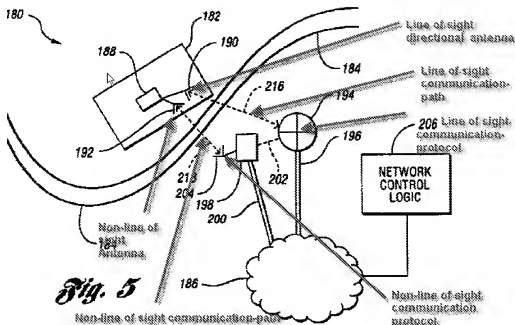
The time period for reply, if any, is set in the attached communication.

**Advisory Action**

Applicant's arguments, see pages 11-27 of the Remarks section, filed 9/20/2010, with respect to the rejections of the claims have been fully considered and are not persuasive.

Applicant argues that (page 14) *the relevant claim limitation lacking in Rochberger is "first and second communication paths use different communication protocols and are of different communication types."* In other words, not only the primary and secondary paths are of different communication types, but they also must use different communication protocols. However, the prior art provided by the Examiner (i.e., Schwengler) does not disclose that the first and second communication paths (e.g., main and backup communication paths) use different communication protocols and are of different communication types.

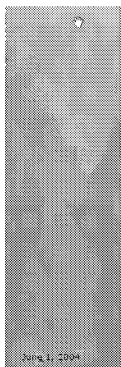
However, Examiner respectfully disagrees with Applicant's assertion. Schwengler does indeed teach the cited limitations. Specifically, Schwengler in the same or similar field of endeavor teaches primary and secondary path use different communication protocol and are being different communication type (Abstract, column 3 lines 53-55, the redundant or secondary communication path may be a different line of sight path to



the same or a different transmitter, or may be a lower frequency communication path. It is to be appreciated that this embodiment of the present invention, utilizing a primary and a secondary transmitter, allows a lower frequency non-line of sight link to be used as a backup for a primary communication path that does require line of sight).

Clearly, figure 5, differentiates the primary from the secondary communication path and protocol; One being LOS (Line of sight) path and protocol, the other being NLOS (Non-line of sight) path and protocol. A quick search in the internet reveals the obvious differences between the two. One such document is produced below to show the obvious differences between the two (Not to introduce a new ground of rejection):

WiMax versus Wi-Fi by Michael F. Finneran, page 7 states:



## WiMax versus Wi-Fi

A Comparison of  
Technologies, Markets,  
and Business Plans

Michael P. Finneran  
dBn Associates, Inc.  
Telephone: (516) 569-4567  
Email: mfinneran@att.net

June 4, 2004

The original version of the 802.16 standard, released in December 2001, addressed systems operating in the 10-66 GHz frequency band. Those high-frequency systems require line-of-sight (LOS) to the base station, which increases cost and limits the customer base. Further, in line-of-sight systems, customer antennas must be realigned when a new cell is added to the network.

We will focus primarily on the 802.16a standard released in January 2003 that describes systems operating between 2 GHz and 11 GHz. The lower frequency bands support non-line-of-sight (NLOS), eliminating the need to align the customer unit with the base station.

Therefore, clearly, in this case LOS is based on protocol standard 802.16 operating at 10-66 GHz, while NLOS is based on protocol standard 802.16a, operating at 2-11 GHz.

Therefore, Examiner respectfully disagrees with Applicant's assertion that (page 14) *unlike KSR, where two previously known claim elements were combined, here we have a new claim element, first and second communication paths (e.g., main and backup communication paths) use different communication protocols and are of different communication types, that does not appear in the prior art.*

It is for the same reasons, Examiner respectfully disagrees with Applicant's assertion (page 14) that *rationale #1 (i.e. TSM) fails because the notion of main and backup communication paths that use different communication protocols and are of different communication types, recited in independent claims 1, 11, and 21, does not appear in the prior art.*

Applicant argues that (page 15) *similarly rationale #2 requires the substitution of a known element for another, but main and backup communication paths that use different communication protocols and are of different communication types was not a known element. Consequently rationale #2 fails.*

However, Examiner respectfully disagrees with Applicant's assertion. Examiner's rationale to combine is not based on:

(2) Simple substitution of one known element for another to obtain predictable results.

But rather on:

(3) Use of known techniques to improve similar devices (methods or products) in the same way.

Applicant argues that (page 15) *in the same fashion, rationales #5 - #7 are also lacking. Rationale #5 fails because main and backup communication paths that use different communication protocols and are of different communication types was not known in the prior art and consequently can not be one of a finite number of identified solutions. Rationale #6 fails because there has been no showing that main and backup communication paths that use different communication protocols and are of different communication types was known in any field of endeavor. Rationale #7 fails because there is no teaching of main and backup communication paths that use different communication protocols and are of different communication types in the prior art, as mentioned above.*

In response, Examiner respectfully submits that Examiner's rationale to combine is also based on:

(6) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.

Contrarily to Applicant's assertion that *Rationale #6 fails because there has been no showing that main and backup communication paths that use different communication protocols and are of different communication types was known in any field of endeavor*, Examiner has clearly shown above that such limitation was indeed known by Schwengler prior art.

Applicant argues that (page 15-16) *rationales #3 and #4 also fail. Specifically, as recited in the PTO's published guidelines, rationale #3 requires: To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Office personnel must then articulate the following:*

*(1) a finding that the prior art contained a "base" device (method, or product) upon which the claimed invention can be seen as an "improvement;"*

*(2) a finding that the prior art contained a "comparable" device (method, or product that is not the same as the base device) that was improved in the same way as the claimed invention;*

*(3) a finding that one of ordinary skill in the art could have applied the known "improvement" technique in the same way to the "base" device (method, or product) and the results would have been predictable to one of ordinary skill in the art; and*

*(4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.*

*However, none of the findings above have been articulated by the Examiner as required by the PTO published guidelines. Further, because main and backup communication paths that use different communication protocols and are of different communication types does not appear in the prior art, the alleged "improvement" technique of using a backup communication path of different type and using a different communication protocol from the main path, was not known, as required by the*

*guidelines above. Rationale #4 requires similar findings and requirements and, consequently, also fails.*

However, Examiner respectfully disagrees with Applicant's assertion. Examiner has indeed met "articulated reasoning with some rational underpinnings to support the legal conclusion of obviousness" for the reasons as follows:

(1) A finding that the prior art contained a "base" device (method, or product) upon which the claimed invention can be seen as an "improvement" is met by Rochberger prior art method/system; (2) a finding that the prior art contained a "comparable" device (method, or product that is not the same as the base device) that was improved in the same way as the claimed invention is met by Schwengler prior art method/system; and (3) a finding that one of ordinary skill in the art could have applied the known "improvement" technique in the same way to the "base" device (method, or product) and the results would have been predictable to one of ordinary skill in the art; and (4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness is met by use of known techniques (primary and secondary path being different communication type) to improve (network can be made to be more reliable in case of failure in the primary path; thus overcome the problems associated with primary path failure by utilizing the appropriate different communication path to get around the fault) similar devices (methods or products of Rochberger and Schwengler prior art) in the same way.



Therefore, Examiner respectfully disagrees with Applicant's assertion that (page 16) *both the KSR test and the seven other rationales identified by the PTO fail to support a finding of obviousness.*

Applicant argues that (pages 19 and 20) *the Examiner has failed to provide "articulated reasoning with some rationale underpinning to support the legal conclusion of obviousness" in the detailed manner described in KSR. The Examiner apparently alleges that because Schwengler teaches a way to overcome large obstructions in the line of site path of a transmission, a person of ordinary skill in the art somehow would have been motivated to incorporate Schwengler's alleged teaching of "primary and secondary path being different communication type" into Rochberger's. The Examiner fails to explain any plausible motivation for making this combination. The Examiner also makes the unsupported allegation that "by using different communication types for primary and backup paths, network can be made to be more reliable in case of failure in the primary path." (See OA, p. 3.). The Examiner provides no explanation of how Rochberger's network would allegedly be enhanced and made more reliable. Notably, the Examiner has ignored the fact that Rochberger relates to Asynchronous Transfer Mode (ATM) networks, which are based on wired data transmissions. Why would a person of ordinary skill in the art incorporate Schwengler's alleged teaching ("primary and secondary path being different communication type") into Rochberger's wired ATM system if, Schwengler addresses line-of-sight problem associated only with wireless transmissions in a Local Multipoint Distribution System (LMDS)? The answer is that a person of ordinary skill in the art simply would not make this*

*combination, There would be no need to use primary and secondary paths of different communication type to remedy "large obstruction" problems in line of site transmissions, since such problems would not exist (and are not an issue) with ATM wired transmissions disclosed by Rochberger.*

However, Examiner respectfully disagrees with Applicant's assertion. In response to applicant's argument that Rochberger and Schwengler are not combinable, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Making Rochberger network secure by establishing primary and secondary path being different communication type and protocol as suggested by Schwengler would have been suggested to those of ordinary skilled in the art.

Furthermore, although Rochberger is wireline ATM system, yet making a fault-tolerant system is a necessary and logical step all network designers would take to make communication system reliable. On the other hand Schwengler, although a wireless system, shows a very conventional way to make a system fault-tolerant, by using the concept of using separate communication path and protocol as a secondary path. Therefore, known work (primary and secondary path being different communication type) in one field of endeavor (Schwengler prior art) may prompt variations of it for use in either the same field or a different one (Rochberger prior art)

based on design incentives (network can be made to be more reliable in case of failure in the primary path; thus overcome the problems associated with primary path failure by utilizing the appropriate different communication path to get around the fault) or other market forces/market place incentives if the variations are predictable (network can be made to be more reliable in case of failure) to one of ordinary skill in the art.

Therefore, Examiner respectfully disagrees with Applicant's assertion that (page 21) *there simply is no rational basis for combining the references in the manner suggested by the Examiner. Instead, the Examiner appears to be proposing the combination based solely on improper hindsight. As such, the rejections based on the proposed combination of Rochberger and Schwengler are improper and should be withdrawn.*

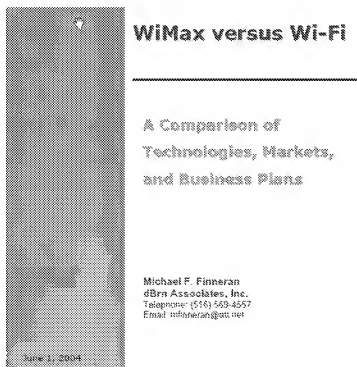
Applicant argues (pages 23-24) that *Examiner relies for support on col. 4, lines 42-47 of Schwengler. However, the Applicant points out that Schwengler only relates to transmissions in the Microwave band of the spectrum (e.g., frequencies greater than 12 GHz and going up to 30 GHz, which is the typical frequency range for LMDS type communications using line of site transmission). (See Schwengler, col. 3, lines 11-17). In this regard, even though Schwengler discloses using different communication paths or different frequencies for a given communication path, the fact remains that Schwengler uses only one type of communication path, e.g., in the Microwave band, which is associated with only one communication protocol. Therefore, Schwengler does not overcome the deficiencies of Rochberger.*



the same or a different transmitter, or may be a lower frequency communication path. It is to be appreciated that this embodiment of the present invention, utilizing a primary and a secondary transmitter, allows a lower frequency non-line of sight link to be used as a backup for a primary communication path that does require line of sight).

Clearly, figure 5, differentiates the primary from the secondary communication path and protocol; One being LOS (Line of sight) path and protocol, the other being NLOS (Non-line of sight) path and protocol. A quick search in the internet reveals the obvious differences between the two. One such document is produced below to show the obvious differences between the two (Not to introduce a new ground of rejection):

WiMax versus Wi-Fi by Michael F. Finneran, page 7 states:



The original version of the 802.16 standard, released in December 2001, addressed systems operating in the 10-66 GHz frequency band. Those high-frequency systems require line-of-sight (LOS) to the base station, which increases cost and limits the customer base. Further, in line-of-sight systems, customer antennas must be realigned when a new cell is added to the network.

We will focus primarily on the 802.16a standard released in January 2003 that describes systems operating between 2 GHz and 11 GHz. The lower frequency bands support non-line-of-sight (NLOS), eliminating the need to align the customer unit with the base station.

Therefore, clearly, in this case LOS is based on protocol standard 802.16 operating at 10-66 GHz, while NLOS is based on protocol standard 802.16a, operating at 2-11 GHz.

Therefore, Examiner respectfully disagrees with Applicant's assertion that (page 24) *the proposed combination of Rochberger, Schwengler and DeKoning does not render independent claim 1 unpatentable, and a prima facie case of obviousness has not been established. The Applicant submits that claim 1 is allowable. Independent claims 11 and 21 are similar in many respects to the method disclosed in independent claim 1. Therefore, the Applicant submits that independent claims 11 and 21 are also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 1.*

Therefore, the claims stand rejected.

